

Washington Park Arboretum

BULLETIN



Published by the Arboretum Foundation

Winter 2004

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Washington Park Arboretum Bulletin
Published quarterly by the Arboretum Foundation
for the Washington Park Arboretum

Washington Park Arboretum

The Arboretum is a 230-acre living museum displaying internationally renowned collections of oaks, conifers, camellias, Japanese maples, hollies and a profusion of woody plants from the Pacific Northwest and around the world. Aesthetic enjoyment gracefully co-exists with science in this spectacular urban green space on the shores of Lake Washington. Visitors come to learn, explore, relax or reflect in Seattle's largest public garden.

The Washington Park Arboretum is managed cooperatively by the University of Washington and Seattle Parks and Recreation; the Arboretum Foundation is its major support organization.

Graham Visitors Center

Open 10 AM—4 PM daily;
holidays, NOON—4 PM.
Closed Thanksgiving and the Friday after,
Christmas and New Year's Day.

The Arboretum is accessible by Metro bus #43 from downtown Seattle and the University of Washington campus

Arboretum Foundation

The Arboretum Foundation is a nonprofit organization established in 1935 to ensure stewardship for the Washington Park Arboretum and to provide horticultural leadership for the region. The Foundation provides funding, volunteer services, membership programs and public information in support of the Arboretum, its plant collections and programs. Volunteers operate the gift shop, conduct major fund-raising events, and further their gardening knowledge through study groups and hands-on work in the greenhouse or grounds.

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www.arboretumfoundation.org
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Gift shop hours: 10 AM—4 PM daily

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Washington Park Arboretum Bulletin

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ON THE COVER: Icy winter days hardly faze the waxy, pale yellow, astoundingly fragrant blooms of winter sweet, *Chimonanthus praecox*. Although the shrub has little to recommend it in other seasons, its captivating, winter fragrance travels for yards; enjoy it in the Arboretum at map grids 26-1E, 33-2E and 36-2E.

ABOVE: Although some of us might have difficulty telling one snow drop from another, a true *Galanthus* collector would have no problem identifying this cultivar as *G. nivalis* 'Viridapice.' The tip of each petal is prominently marked with green.



The deep green foliage and sunny flowers of *Mahonia* 'Arthur Menzies' and the yellow and bronze flowers of witch hazels (*Hamamelis* cultivars) lure visitors down a path in the Arboretum's Joseph A. Witt Winter Garden.

Winter in Bloom!

Washington Park Arboretum, more than any place I can think of, brings color and botanical interest to winter months. (Gone are the days when winter meant a nearly empty schedule of garden-related activities and opportunities!)

Work is well underway on the Arboretum Foundation's much anticipated annual event, the Northwest Flower & Garden Show Preview Gala (Tuesday, February 3). This year's gala—Tree Chic—promises a delightful evening of garden viewing and favorite Northwest fare. Turn to page nine for more information.

Thousands of Northwest Flower & Garden Show visitors will see and enjoy the Arboretum's display garden, "Gardens in a Forest Glade." Don't miss this extraordinary creation featuring a dazzling palette of beautiful mini-gardens in an enchanting setting. Designed by Iain Robertson, the display garden is made possible by volunteers contributing a remarkable array of talent and expertise. The show is scheduled for February 4 through 8.

Here at the Arboretum, interest grows each year in the wonderful Joseph A. Witt Winter

Garden. Last winter saw a significant increase both in visitors and media coverage for this truly unique collection of winter-blooming and winter-interest plants. If you can, choose a sunny afternoon (there are plenty) to enjoy the garden's color, fragrance and looping trails.

But winter interest at the Arboretum isn't limited to the Winter Garden. Any visitor can find an array of bark, foliage and winter bloomers throughout this living museum's acres. When you visit, remember to stop by the Graham Visitors Center to see the wonderful hardy fern garden, the current installation in the Arboretum's Signature Bed. Installed in October, it's already a favorite, winning raves and admiration. The garden was designed and installed by the Hardy Fern Foundation and features nearly 100 fantastic hardy ferns and companion plants.

Enjoy winter. See you at Tree Chic!

Deborah Andrews, Executive Director,
Arboretum Foundation

My Green Garden

BY JAN PIRZIO-BIROLI

On January 20, 2003, I happened to glance toward my daughter's house, which now stands on what was once the eastern end of our long, narrow property on Mercer Island, and I was astounded at the view of large trees that had not been particularly noticeable before her house was built. There grow some of the tallest (and oldest) trees in the garden. Besides a small, native grove of Douglas firs (and a single one on the north edge of the property), the others were planted in the middle years of the 1950s, after we had rid ourselves of the alders and pussy willows that had covered the landscape when we first moved in. Included are a red oak, a grand fir and a ponderosa pine—the last two planted as 1- to 2-foot infants gathered from the mountains during numerous camping trips.

After I became aware of our winter view

toward the far end of the garden, I began to think about other plantings that contribute to the green garden we enjoy at that time of year. One of the notable accidents of our garden's development is the pair of mounds that separate the garden from the driveway and are now additionally valuable in creating privacy between the two houses on the property. Since they were erected in our ignorance with truckloads of topsoil, anything planted upon them grows with enthusiasm. The northern mound is dominated by a *Trochodendron aralioides*, about 25 feet high; the southern, by an evergreen oak. Both of these plants have thrived with various underplantings that have changed over the years.

Dominating another bed is *Corylus avellana* 'Contorta,' most noticeable and attractive at this time of year when it is leafless, exhibiting its curly branchlets enhanced by



PHOTO BY CHRISTINA PEIFFER

Lush, 10- to 12-inch fronds of licorice fern (*Polypodium glycyrrhiza*) grow from the moss-covered trunk of an old big-leaf maple (*Acer macrophyllum*) in Pirzio-Birolì's garden.



WASHINGTON PARK ARBORETUM

A Photographer's Paradise

*The Arboretum Foundation presents
an Arboretum Photo Contest*

Professional and amateur photographers are
encouraged to submit photos in five categories:

- Plant Portraits
- Landscapes
- Seasons
- Life in the Arboretum
- Japanese Garden

Grand prize photos will be published
in the Washington Park Arboretum
Bulletin and the Seattle Post-Intelligencer.
Photos must be received by June 1, 2004.
For contest guidelines, go to
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or call 206-325-4510.

\$500 grand prizes in the professional
and amateur divisions.

Additional prizes in all categories.



Seattle Post-Intelligencer

winter catkins. My favorite primula edges this bed in memory of the wonderful Mrs. Elizabeth Blackford, who contributed much to the Arboretum as an early member of Unit 39 and inspired so many young Seattle gardeners in the early to mid-20th century. Every morning during the summer she got up at 4 o'clock to water her primroses, and when they finished blooming, we would find her on hands and knees, separating and replanting them, edging every bed in her garden with a different kind.

Another of our oldest plantings is a pink dogwood, *Cornus florida* f. *rubra*, which has dominated the front walk since the early days. Beneath its mossy branches grow azaleas and rhododendrons, especially *Rhododendron mucronulatum*, and various under-plantings that deserve special attention. Of note is a specimen of *R. roxieanum* whose dark green, narrow leaves, with their dense indumentum, are a year 'round treat. I have learned over the years to remove its flower buds, for in spring, when it tries to bloom, it is barely able to present one or two slightly damaged florettes within a few would-be inflorescences. Dominating one side of the walk to the front door is a planting of various ferns acquired over the years.

During winter, occasional rhododendrons offer their flowers—either in or out of season. *Rhododendron strigillosum* is one of those early species, blooming usually in March but occasionally, during a warm winter, as early as mid-February. But rhododendrons do not need to be flowering to offer pleasure in the garden. *Rhododendron* 'Else Frye' is delightful year 'round, with her sweeping branches and elegant, rugose leaves. Our specimen flourishes on the terrace in the largest movable



Soft yellow, pendant catkins decorate the twisted branches of a large *Corylus avellana* 'Contorta' in Pirzio-Biroli's garden. It may be seen in the Arboretum at map grids 19-1E, 35-1E and 46-7E.

container we can offer, just in case we need to give her shelter in an especially icy period. She is named for Else Frye, another of our remarkable, Northwest gardening ancestors.

Moss is a notable accompaniment to a winter garden. In mine it grows everywhere, on concrete or stone walls, on pottery and trees, such as the dogwood mentioned above, as well as the big-leaf maples we were too ignorant to remove during those early years. On a triple-trunk

specimen near our terrace, it shares space with a fern that thrives under similar conditions, a combination I have been especially fond of over the years, as I have watched the same species grow together on the horizontal branch of an enormous maple in the Arboretum's *Sorbus* collection near Arboretum Drive East. During late spring and summer it disappears, but appears again as the rains begin in autumn. ∞

JAN PIRIZIO-BIROLI joined the Arboretum Foundation nearly 40 years ago to learn what to plant in her garden and went on to make significant contributions to the Arboretum community as a dedicated volunteer, teacher, and staff member. She edited the Arboretum Bulletin in the 1970s and received a master's degree in botany from the University of Washington in 1981. As Arboretum Naturalist, she led memorable tours of plant collections (always highlighted with amusing stories), coordinated guide training and seed collection, wrote plant columns, maintained plant records and worked with volunteers and students. Though retired from the UW, Jan continues to volunteer and is a member of the Bulletin Editorial Board.—by Christina Pfeiffer



Native to eastern North America, *Magnolia acuminata* can grow to 70 feet with a canopy spread of 30 feet. In late spring or early summer it produces small, yellow-green, cup-shaped flowers.

Urban forest canopy, provided by trees, such as this Arboretum specimen, reduce stormwater storage costs and improve city air quality.

THE VALUE OF NATURE: Economics of Trees and Parks

BY KATHLEEN L. WOLF

Many of us, fortunately, enjoy the amenities of Washington Park Arboretum quite regularly. Some of us experience its delights on a daily basis; others visit occasionally or perhaps only during a one-time, Seattle sight-seeing visit. Creating an environment that welcomes these varied human experiences requires ongoing planning, management and maintenance, and these activities incur certain costs. But budgets of agencies and organizations are limited and must address many public needs. Increasingly, civic organizations, such as the Arboretum Foundation, provide significant support for urban public lands, such as the Arboretum, and are called upon to understand and provide a full accounting of both the benefits and costs of urban green spaces.

While costs can usually be directly tallied, the calculation of benefits returned is far less straightforward. Nonetheless, there are economic strategies and techniques for valuing nature and ecosystem services. A detailed analysis would be required to place a specific value on the services provided by the Arboretum, but this introduction to how economists, social scientists and ecological scientists are determining the value of urban nature may suggest how a more complete understanding of urban tree and forest valuation could be used for policy and decision-making.

Economics and Nature

It is not difficult to calculate their value when trees are being grown for harvest to make specific products. Market dynamics of supply and demand establish prices, and prices

at the time of sale of wood commodities determine the profit one can expect.

But trees in the Arboretum are not ever intended for harvest. They are public goods, non-market commodities. Multiple “owners” invest in the Arboretum’s natural capital, generating “products” in the form of intangible benefits for each visitor and user. The experience of these benefits by any individual does not exclude others from experiencing similar benefits, both immediately and indefinitely.

Although this situation seems complex from an economics perspective, economists have developed theory and methods for capturing public goods values. Many of their approaches were first developed to assess the economic value of wildland recreation. More recently, ecological economists have proposed ways to measure the environmental services that are provided by the world’s forests, wetlands, oceans and other natural areas.

There is growing interest in adapting such economic valuation approaches to urban nature systems. These systems are intertwined with human systems, and human response and behavior are an important part of valuation equations.

Direct Use Values

Perhaps the most obvious way to measure economic value is to tally all the expenses Arboretum visitors and users incur during their visits to the site. While neighborhood users who may enter the site for a leisurely walk spend little, others travel some distance, and their spending on meals, fuel, accommodations and such can be prorated depending on

the importance of their Arboretum visit and the amount of time dedicated to the visit as part of a total trip. Economists have used this travel cost method to assess values associated with visits to wildland parks and open spaces.

Some users also make local purchases, perhaps going beyond purchases in a gift shop to include equipment bought for workshops and classes. This may also include plant and landscape equipment purchases made as a result of learning about trees and horticulture while at the Arboretum. It may even include food purchased for a picnic eaten on site.

Such values can only be calculated if detailed information is available about the characteristics of users and how their visit to the Arboretum fits into their trip or lifestyle. User surveys at national parks and state recreation areas have been used to collate such data for economic calculations.

Environmental Benefits & Costs

Ecological systems provide a myriad of services to our society. Trees are parts of ecosystems that clean air and surface water, provide or renew potable water, and reduce energy consumption. American Forests, a venerable citizens' conservation organization, has conducted urban ecosystem analyses for many U.S. metropolitan areas, in an effort to capture the services that trees provide in cities. Using digital satellite imagery and aerial photographs, the degree of historic and current levels of urban forest canopy cover are calculated. Using summary mathematical models of air and water quality as well as energy use, annual values of urban forest services are estimated. For example, the Puget Sound basin study, prepared in 1998, claimed that tree cover in the King County urban growth boundary area had reduced stormwater storage costs by \$910



Northwest native
Acer macrophyllum
provides shade in many
urban gardens.

million, and generated annual air quality savings of \$19.5 million. More fine-grained analyses can be done at the neighborhood level using the GIS software CityGreen, providing additional estimations of services provided by trees.

A research team at the Center for Urban Forest Research has also conducted micro-scale studies, focusing on street tree costs and benefits. Costs include tree planting, irrigation, pruning and other maintenance. Calculated benefits include energy savings, reduced

atmospheric carbon dioxide, improved air quality, and reduced stormwater runoff. Using a mathematical formula, these economic data are tallied to generate a per tree net benefits figure. A 2002 analysis, specifically using input data from Western Washington cities, suggests that per tree average annual net benefits are \$1 to \$8 for a small tree, \$19 to \$25 for a medium tree, and \$48 to \$53 for a large tree. The range of value reflects whether trees are on public or private property and their placement with respect to building heating and cooling devices.

This urban economics model is based on the economic principle of deferred costs, that is, if trees are not present, homeowners or municipal government would have to invest in additional engineered infrastructure or equipment to remedy environmental problems. For instance, tree canopies intercept rainwater, thereby reducing the amount of water falling to the ground and running into stormwater collection systems. So tree canopies can potentially save a community the materials and construction costs of a stormwater system built for greater runoff capacity.

Hedonic Pricing

Economists have also discovered that a public good can have an economic ripple

effect on nearby properties and commerce. The concept of hedonic or pleasure pricing acknowledges that both property values and spending behaviors can be affected by the presence of parks, open spaces and other natural amenities.

Measurement of the effect of parks and open space on adjacent property values has become an accepted value measurement. Numerous studies have shown that appraised property values of homes that are adjacent to parks and open spaces are typically about 8 percent to 20 percent more than comparable properties elsewhere. These values are capitalized when property taxes are assessed or when taxes are paid on a property sale.

Another hedonic valuation approach is to determine how consumers behave in comparable situations when trees are, and are not, present. A series of studies at the University of Washington has investigated the role of

trees on shoppers' behavior in retail business districts, finding that people claim they are willing to pay about 10 percent more for products in a shopping area with trees. A study by the Davey Resource Group found that rental rates of commercial office properties were about 7 percent higher on sites having a quality landscape, including trees. While nearby parks were not factored into the consumer response studies, it is possible that the observed ripple effect on residential properties may also apply to retail and commercial sites.

Human Health

Based on current research, there are at least two ways human health might be assessed for economic value. First, there has been a dramatic rise in recent years in the number of people who are overweight or obese, and these condi-



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tions contribute (over the life of the average person) to increases in chronic disease, such as diabetes, and traumatic diseases, such as cancer and heart disease.

The national Centers for Disease Control (CDC) are conducting extensive studies on physical activity levels and how to encourage people to engage in basic physical activities, such as walking, on a routine basis. CDC is working with urban planners to investigate how urban form (such as street layout and the presence of sidewalks) can encourage walking and biking. The CDC is also considering how community volunteerism and outdoor programs can boost activity levels.

The positive economic consequences of routine, mild exercise are enormous, when aggregated across entire cities or the nation. Again, deferred costs are possible, as medical expenses are lower for people who engage in routine physical activities and exercise. For instance, a 2002 CDC study estimates that obesity-associated annual hospital costs for youths aged 6 to 17 years were about \$35 million between 1979 and 1981 and nearly tripled to \$127 million during 1997-1999. Weight related medical expense trends for adults are equally alarming; studies suggest that when inactive adults increase their participation in regular, moderate physical activity, annual mean medical costs are reduced by \$865 per person (in 2000 dollars).

The CDC and USDA Forest Service have a joint agreement to explore the role of urban trees in motivating outdoor activity; we may learn, in time, that urban trees are significant contributors to economically beneficial health.

Mental Health

Second, recent studies in the field of environmental psychology have established



The tulip tree, *Liriodendron tulipifera*, can grow to 100 feet tall with a spread of 50 feet.

that the presence of trees and “nearby nature” in human communities creates numerous and powerful psychosocial benefits. A series of studies conducted at the Human-Environment Research Laboratory have determined that having trees in public housing neighborhoods lowers levels of fear, contributes to less violent and aggressive behavior, and encourages better neighbor relationships and better coping skills. School-related studies show that children with Attention Deficit Hyperactivity

Disorder show fewer symptoms and that girls show more self-discipline in academics if they have access to natural settings. Other studies confirm that hospital patients recover more quickly and require fewer pain-killing medications when they have a view of nature. Finally, studies suggest that office workers with a view of nature are more productive, report fewer illnesses, and have higher job satisfaction.

These studies, in combination, suggest extensive economic consequences for urban dwellers who have views of trees and nature in the course of everyday experience. The research on this dimension of tree-based public goods is relatively recent. The next important step is to translate the psychosocial benefits to economic terms—a difficult but not impossible exercise.

Conclusions

The economic science of city tree and forest valuation is in its infancy. Compared to valuations of wildland or rural nature, city settings are much more complex, making it more difficult—but not impossible—to isolate the specific effects of nature. Some valuation approaches focus on the accrued benefits at the street or neighborhood level; then results are aggregated across an entire city or region.

Others build on a city, state or national database and extrapolate economic returns. With continued study, such approaches will be refined to provide greater precision in estimating the value of the urban landscape. In the meantime, a variety of studies, conducted by multiple research units and scientists, has begun to reveal the subtle, yet important, contributions of trees to local and regional economies. These benefits, as well as the services that are at the root of economic calculations, are important to the quality of life and human ecology of any city. But such benefits can only be optimized by ongoing management of the urban forest resource. As with any economic venture, it takes money to make money! ~

References and Resources

Center for Urban Forest Research:
<http://cufr.ucdavis.edu/guides.asp?Action=search&SearchArea=products&ProductTypes=20>


Human Dimensions of Urban Forestry and Urban Greening:
www.cfr.washington.edu/research.envmind

Human-Environment Research Laboratory: www.herl.uiuc.edu

Parks and Property Values:
<http://rptsweb.tamu.edu/faculty/pubs/property%20value.pdf>

Urban Ecosystem Analyses: www.americanforests.org/resources/rea/

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The surprising blooms of *Prunus subhirtella* 'Autumnalis' appear sporadically beginning in November, continuing through winter and into early spring. Examples may be seen in the Arboretum at map grid 38-B.

In Love Again...

BY HOLLY M. REDELL

Years ago, when I was still living in New York, my boyfriend sent me the most delightful valentine from his Port Ludlow garden. He had walked around his garden, plucking berries, leaves and a few early flowers, and then tucked them into a folded piece of clear presentation paper, stapled the open edges and stuck it in an envelope for me. It was definitely better than receiving commercially grown roses that would have dipped their little heads in a day. Besides that, I was astounded that there even were flowers in the middle of February in the winter-dreary Pacific Northwest.

When I finally moved permanently to this part of the world, selecting a Seattle address and traveling to Port Ludlow on weekends, I was hopelessly homesick. I moved in

December and, with the exception of a few days of cheery sunshine, it was a typical winter. Imagine my delight when one February day I stepped outside and discovered there were tender little morsels on certain trees; bark was growing darker, showing vibrancy, and the air actually felt lighter. Maybe this was a place I could learn to, if not love, at least stay in

Now, of course, I know that every shade of gray will give way to the dearest of early leaves and blossoms that, among many things, make Seattle a choice place to live. Not a botanist, horticulturist or even devoted gardener, my interest lies in the lift of spirit that comes from seeing those winter and early, spring-flowering trees, and, once the new growth begins to appear, I assiduously seek them out.



This exuberant image, taken in the Joseph A. Witt Winter Garden, features a mass of hellebores, carpeting the feet of the early *Rhododendron* 'Pioneer' and a large *Cornus mas*, covered in small, fragrant, yellow flowers.

With the help of Arthur Lee Jacobson's excellent guide, "Trees of Seattle," I know that my very favorite, the lacy and delicate cherry trees, are actually called autumn- or winter-flowering cherry, *Prunus subhirtella* 'Autumnalis.' On sunny late fall or early winter days, these trees seem translucent, and their slight trunks give them an appearance of

The aromatic bloom of *Magnolia stellata*, in shades of white to pink, bridges the seasons in Seattle—assuring admirers they have stepped from late winter into spring.



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flightiness. I see them on Capitol Hill on 15th Avenue East, between Denny Street and Volunteer Park, and they grow in the Arboretum and on the University of Washington campus.

A little later, in March, something divinely named *Prunus* 'Hally Jolivette' puts forth its winking blooms. According to Jacobson, this pretty, small tree is a hybrid raised by Dr. Karl Sax of the Arnold Arboretum in Massachusetts and named for his wife. Luckily, there are a couple near where my son lived at Interlake Avenue North and North 38th. This lovely hybrid is only slightly older than I am. I hope I look as good each spring!

A Hold on My Heart

In a magical cul-de-sac in Rockland County, New York, where the likes of Katharine Cornell

and Baryshnikov have lived, where Aaron Copland composed 'Rodeo,' and where I was blessed to live for a time, my garden had the first flowering tree of the spring—a white star magnolia (*Magnolia stellata*). It still has a hold on my heart, and I get a catch in my throat when I see the one on Capitol Hill near 13th Avenue East and East Olive. How sweet for us that the long-ago residents of that house planted that particular tree. It gives us stunning flowers that start out white and turn to an old-fashioned pink that makes me think of "A Streetcar Named Desire." To have that much drama on a branch is almost too much to bear, and I often stand there trying to breathe in the aroma and pull the image of the flowers into my eyes, willing it to stay until the next spring.

Back in those early homesick days when I first moved here, I used to cheer myself up



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by taking a walk whenever I could. One day I went into Volunteer Park, and as I walked, the park's design became more and more recognizable. I knew this park, or at least its design. I knew I had to be in an Olmsted landscape. That discovery helped enormously, for it connected Seattle to beloved Eastern parks. Later that first winter I happened into Volunteer Park on a day when another tree from my New York life was in bloom. I felt as if it were a salute from one phase of my life to another. The tree, a cornelian cherry, *Cornus mas*, grows just north of the newly restored lily ponds, directly opposite the Seattle Asian Art Museum. (And, by the way, go stand in front of the museum at any twilight and see if your heart isn't made full.) There used to be another one near the Broadway reservoir—and may still be. I don't go over there much anymore since the reser-

voir has been undergoing reconstruction. The pretty yellow flowers on this tree stand out against the darkness of its bark. See *Cornus mas* at the Hiram Chittenden Locks, on the University of Washington campus and on Seattle city streets.

All of these trees would be welcome in a carefully designed garden, as part of a calendar of year 'round bloom. As for me, I like the thrill of walking out of my door on a winter morning and realizing I am in love again.~

HOLLY REDELL is development director of Seattle's Pacific Science Center and serves on the Bulletin's editorial board. Arthur Lee Jacobson's "Trees of Seattle," published by Sasquatch Books in 1989, is currently out of print; used copies are occasionally available.



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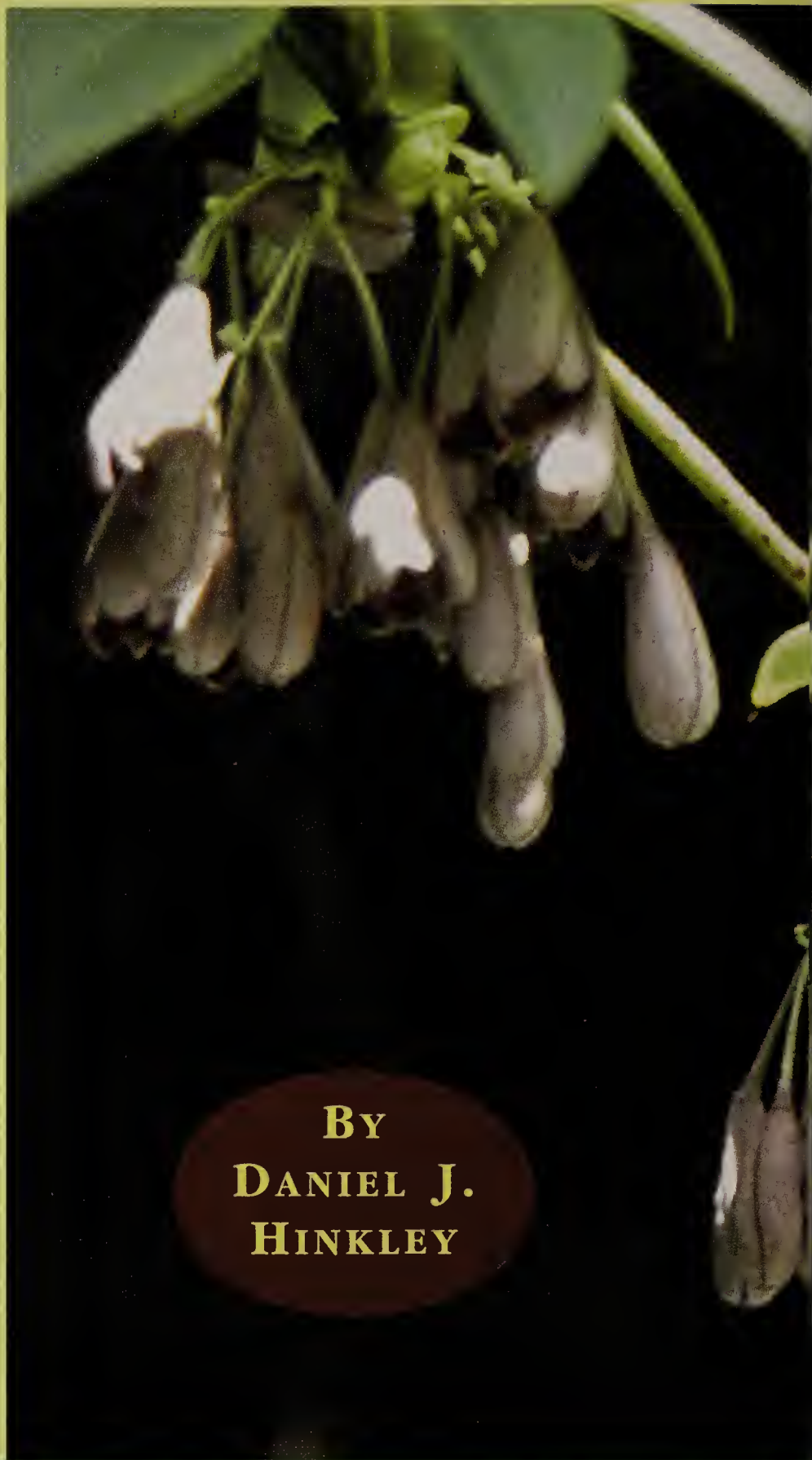
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BELOW: In autumn, as they ripen, the fruit of *Akebia quinata* is frequently encountered in markets throughout South Korea. The fruit is eaten fresh or used to flavor *soju*, Korea's popular rice liquor.



BY
DANIEL J.
HINKLEY

EVERGREEN VINES OF THE LARDIZABALACEAE

As a lazy lay botanist, I have always appreciated those plant families I could get my arms around without extraordinary effort. If, in addition, those succinct familial qualities are combined with ornamental value, I find myself obsessed with gathering about me for comparison and evaluation as many of the genera and species found within the family as possible.

Thus it has been with the Lardizabalaceae, a family of mostly evergreen vines and one shrub. The rather awkward phonetics of the

family name can be blamed on its 18th century namesake, Miguel Lardiz'abal, a patron of Spanish botany.

Though the Lardizabalaceae is geographically centered in Asia, there are two endemic, monotypic genera in southern South America, including the type genus, *Lardizabala biter-nata*. (As an aside, this far-flung geographical disjunction also exists with the genera *Buddleia* and *Berberis*, among others.) The remaining seven genera and 48 recognized species occur mainly in East Asia; 25 of those species are endemic to China.



E: FAVORITE FAMILY MEMBERS

Flowers & Fruit

With a single exception, once you recognize the floral characteristics of even one species, the rest of the family offers few surprises, even to the untrained eye. The floral format is primarily monoecious—that is, male and female flowers are presented separately on the same plant. The calyx of the flowers—the sepals—are generally expanded and provide the stuff of ornament, while the petals are greatly reduced. These flowers are offered in bundled (fascicled) racemes with the bulk of each raceme

comprised of smaller male flowers and, generally, two female flowers counterpoised on either side. Upon fertilization, the ovaries of the female flowers expand to leathery follicles that split open upon ripening to reveal a sweet, somewhat slimy pulp in which are imbedded numerous large seeds. The fruit of

ABOVE: The graceful, sun-dappled, evergreen foliage and pendant clusters of fragrant, lavender flowers, in addition to its hardiness and accommodating nature, make *Holboellia fargesii* worth trying in either sun or shade.

many of these species has made its way into indigenous diets.

Lardizabala

The type genus, *Lardizabala*, is commonly found throughout southern Chile and is represented by a single species, *L. biternata*. When a leaf, such as that of clover, has three main divisions, it is described as being ternate. If each division is further divided into three leaflets, it is considered biternate. The leathery, compound leaves of this species are distinctive, with each leaflet a dark lustrous green and possessing a somewhat undulating leaf edge. I first encountered *L. biternata* growing in the garden of Elisabeth C. Miller in The Highlands north of Seattle and later collected seed from its tough, elongated fruit in the southern Andes of Chile near Santa Barbara at 860 feet elevation where I also saw the fruit for sale by village street vendors. These collections blossomed for the first time in the autumn of 2003 in the garden of my co-collectors, Kevin Carrabine and Jenifer Macuiba. The showy, female flowers of deep purple-black

are attended by smaller male flowers on the same plant. Though this species was introduced into Britain as early as 1844, it is rarely encountered in cultivation, owing to its repudiated tenderness, a fact that, thus far, I have been unable to confirm.

Akebia quinata

The genus *Akebia* is represented by five species, all native to East Asia. The best known of these is *Akebia quinata*, known commonly as the five-fingered Akebia. The palmately compound leaves of this species are comprised of five to seven obovate, evergreen to semi-evergreen leaflets. Racemes of handsome black-purple male and female flowers are produced just as growth resumes in very early spring. An albino flowering form, *Akebia quinata* 'Alba,' is popular in the trade and is noted for possessing the added subsidy of a lovely perfume when in blossom.

The fruit of *Akebia quinata* fit the norm of the family at large, with large, pale purple, leathery follicles that split open to reveal a succulent, seed-studded interior. I have collected

VISIT LARDIZABALACEAE FAMILY MEMBERS

BY RANDALL HITCHIN

It's surprising that a group of plants so beautiful and versatile as the Lardizabalaceae is so poorly known in gardening circles. Dan Hinkley's article will certainly whet your appetite, so where can you see these cool climbers? The Washington Park Arboretum, of course! The Arboretum exhibits living specimens representing many species and most genera in the family. A number of older specimens can be found in various locations. However, the core of the Arboretum Lardizabalaceae collection is displayed on the pergola at the east side of the Graham Visitors Center. Here you can see species and cultivars of *Akebia*, *Holboellia*, and *Stauntonia*. While many of these plants are striking throughout the year, mark your calendar for a visit during the fruit display in late September or early October. For the last two years *Akebia quinata* 'Rosea' has produced bumper crops of lavender, sausage-shaped fruits. And if you want to take your Lardizabalaceae adventure further afield, inquire in the visitors center about the locations of *Decaisnea* and *Sinofranchetia*.

RANDALL HITCHIN is the registrar and collections manager for the Washington Park Arboretum.



The first flowers of *Lardizabala biternata* HCM98072, collected as seed by Hinkley, Carrabine and Macuiba in southern Chile in 1998, appeared in early November 2003.

seed of this species in South Korea, on Mt. Chiri on the southern part of the peninsula at moderate elevations, where I noted stems climbing up to 50 feet. There, the fresh fruit is frequently seen in autumn for sale by street vendors, who also flavor the national firewater, *soju*, with the entire fruit. *Akebia quinata* is also native to Japan and across much of China.

Because of its vigorous growth, particularly in warm summer climates, *Akebia* has been dubbed the “kudzu of the north” by many who consider it too aggressive for inclusion in gardens. Nevertheless, it is relatively tame in the Pacific Northwest. Fruiting is effected by planting more than one clone, and it is the white-flowered form that sets fruit most reliably in the Northwest.

Akebia trifoliata

Akebia trifoliata, as its name implies, differs from the former species by having three-parted foliage of varying degrees of substance dependent on its provenance. Taxonomists have described three subspecies, all of which occur throughout China, though it has been *Akebia trifoliata* subsp. *trifoliata* that I have collected in Japan at 1400 feet near Egiri on the main island of Honshu. It is this sometimes deciduous subspecies that is most encountered in cultivation in North America. The purple,

unisexual flowers are produced in late winter and early spring, resulting in fruit very similar in appearance to *A. quinata*. The roots, leaves and fruits of *Akebia trifoliata* are used in traditional Chinese medicine.

Holboellia fargesii

My excitement for this family as a whole and its contribution to Western ornamental horticulture comes by way of the genus *Holboellia*. This genus of about 20 species of evergreen and, rarely, deciduous climbers, all native to Southeast Asia, commemorates F.L. Holboell, one-time superintendent of the Copenhagen Botanic Garden.

It was under a curious set of circumstances that I happened upon the seed of *Holboellia fargesii* for the first time in Yunnan Province, China, in 1996. As we botanized a rich mountain range known as the 99 Dragons, I surprised a young Chinese man walking down the same valley that I was climbing up. He had in his arms a rather large cluster of beautiful lavender fruit that I suspected as being from this species, since I had happened upon a single, yet barren, plant earlier that morning. He kindly offered me a single fruit while demonstrating how to eat the fleshy interior and discard the rind.

As it turned out, my Chinese acquaintance had regularly discarded the rinds of the fruit he had eaten as he walked down the mountain, and in the process, had inadvertently provided a well-festooned trail directly to his mother lode. Here a mature and wizened specimen of *Holboellia fargesii* had climbed 75 feet into a host tree, while still offering a glimpse of its handsome foliage to confirm its identity.

The resultant seedlings from this treasure hunt are now firmly established in my garden. My garden experience with it, in full sun, as well as deep shade, suggests it is one of the most worthy evergreen vines to cultivate in our mild maritime climate. The elegant, finely

continues on page 28

SPRIGHTLY SPRING EPHEMERALS

STORY AND PHOTOS BY RICHIE STEFFEN



In the garden, the experts always remind us to plant for structure and form. As a result, we select carefully from a vast palette of woody plants to create a sense of framework and permanence, choosing from a nearly unlimited number of perennials to add color and texture. We learn to appreciate plants with long seasonal interest and try to keep this asset in mind when we purchase new plants.

But, to some extent, I am now trying to break myself of these well-learned habits. Over years of touring gardens and making my own gardens, I have come to appreciate the fleeting flower—the plants that burst forth, produce their seasonal blooms, then give way to other

more robust companions. Some of my

favorites are spring ephemerals, wonderful gems that can be tucked in among shrubs and perennials to add surprise and depth and give a sense of maturity to the garden. Spring ephemerals can be perennials or bulbs, are generally under a foot tall and are dormant during the summer. Their bloom graces the garden from late January to about mid-May and is always a delight in our gray spring weather.

Minor Bulbs...

Minor bulbs play a major part in this gardening concept. There are many that will

ABOVE: *Corydalis solida* 'George Baker' may surprise admirers with its elegant, soft red bloom and rich, green foliage. **INSET:** *Galanthus* 'Straffan' rewards gardeners by blooming for at least six weeks.

BELOW: The Polyanthus Group of primroses has complex parentage of garden origin. The pastel-hued 'Striped Victorians' strain blooms in a range of blues and lavenders with dark blue veins.

thrive in our area with minimal care. *Scilla*, *Chionodoxa* and *Muscari* are only a few, but I think the most charming herald of spring is the snowdrop, *Galanthus*.

Snowdrops can definitely become an addiction. With careful selection and diligent search (deep pockets won't hurt either), you can have a collection that contains fall bloomers, yellow-flowered types, huge blooms and delicate doubles. There are hundreds of selections, some easily differentiated, others you can only tell apart by their labels, but I have never seen one I didn't like. To start your addiction, *Galanthus elwesii* is early and reliable. This species bulks up relatively quickly and provides a long-lasting show. *Galanthus nivalis*, one of the most common snowdrops, starts blooming on the heels of *G. elwesii* with

a profusion of delightfully tiny teardrop-shaped blooms. With some searching you can find *G. nivalis* 'Viridapice,' with each petal prominently marked with green on its tip. A favorite at the Elisabeth C. Miller Botanical Garden is *G.* 'Straffan.' Its large flowers often last at least six weeks.

...And Lesser Perennials

A very useful spring ephemeral is the lesser celandine, *Ranunculus ficaria*. These neon-bright and cheery perennials generally produce buttercup-yellow flowers starting in March and possess a wide array of contrasting foliage. *Ranunculus ficaria* 'Brazen Hussy' is one of the most widely available selections. Its leaves are a deep purple-black, stunning when



popping through the fresh green of moss, and delightfully gaudy with *Lysimachia nummularia* 'Aurea,' golden creeping Jenny. I have mixed patches of *R. ficaria* 'Brambling' and *R. ficaria* 'Dusky Maiden' in my garden. Both have complementary, mottled foliage of silver and black, and their yellow flower color matches, providing harmony to the show. There are numerous forms of lesser celandine available, and many mix and match well with little effort. They perform well in moist soils but will tolerate average garden conditions. At their most robust, they grow 8 to 10 inches tall, but a more typical height is about 3 to 4 inches.

When *Corydalis* is mentioned, one cannot help but think of the brilliant blue-flowered *C. flexuosa*. I have grown many varieties of this *Corydalis* with varying degrees of success. The key to growing them well is to provide both a rich, moist soil and regular feedings. In a good location they are stunning, with bright green or purple-tinted ferny leaves with flush after flush of blue flowers resembling schools of tiny blue fish. My favorite form is *C. flexuosa* 'Blue Panda.' I was given a division of the original, named selection by Ruben Hatch, who discovered it in Sichuan, China. It was one of the first available and is still the brightest blue you can find.

A less well known member of this genus is *Corydalis solida*, fumewort, a bulbous *Corydalis*, sprouting in the late winter and producing copious, short sprays of flowers before collapsing into dormancy by late May. The typical flower is lavender in color, but selections have been made for pinks, rich mauves and cool reds.

Corydalis solida 'George Baker' is a beautiful, soft-toned red. If you mail order the bulbs, plant them immediately; they resent drying out in storage. They are best in well-drained soil in open shade to partial sun.

Precious Relatives

The Miller Garden has collected hepaticas for several years. At the center of the collection are the Japanese cultivars, treasures unrivalled for their delicate brilliance. Although these small plants produce an exotic display, we have found them to be best used as pot plants, where the intricate blooms can be studied closely, and they can be protected from the vagaries of the weather. A better choice for the home garden is *Hepatica acutiloba*, the sharp-leaf liverwort, native to the East Coast and Midwestern United States. Flowers can range from white to pastel pinks or mid-blues and hold up well in our spring rains. These charming woodland plants grow 6 to 8 inches tall and are fully evergreen. Provide them with rich garden soil and extra summer water in open to partial shade.

A close relative of the hepatica is *Anemone nemorosa*, wood anemone, one of the most charming spring ephemerals. It will form

The highly-coveted *Anemone nemorosa* 'Vestal' bears bright white flowers with central tufts of symmetrically arranged tepals.



a carpet of dainty, daisy-like flowers atop short, lacy foliage in late March and early April. The flowers come in pure white, pastel pinks and soft to royal blue. They seldom reach over 6 inches tall and are not aggressive in their spreading habit. They are easy to grow and tolerate a wide range of growing conditions including dry locations. Because they go

dormant in early summer, they are great companions for late-to-emerge perennials and ornamental grasses. A few choice cultivars are *A. nemorosa* 'Vestal,' a pure white with a double puff of flowers, and *A. nemorosa* 'Robinsoniana,' a long-time standard and still one of the best single blues.

Anemonella thalictroides, or rue anemone, is a hardy, East Coast, native perennial. The botanical name is apt for this plant: the flowers are reminiscent of single anemone flowers, and the foliage looks remarkably like that of *Thalictrum*. The first blooms appear in mid-March and are typically white, although pale pinks, unusual greens and double forms are sparingly available. A profusion of bloom occurs well into April and sometimes early May. The new flowers and foliage have all the delicacy of maidenhair fern but are surprisingly tough and robust. If the plants are regularly watered, the foliage will hold up for most of the summer. If you forget a few sprinklings, they will go dormant in late June to emerge the next spring. Don't forget they may go dormant—I threw my first plant out thinking I had killed it!

Uncommonly Familiar

Wanda primroses (*Primula* 'Wanda') are well known to many gardeners; their bright red-purple flowers are cheery in the spring. But there are also many other primroses for our spring palette. Last spring we added over 700 Barnhaven primroses to the Miller Garden. Barnhaven Nursery, located in France, developed these colorful and prolific flowering strains. Ours start blooming in late February and produce continuously until late April. Our most asked about strains are the 'Spice Shades' mix and the 'Striped Victorians' strain. 'Spice Shades' come in cinnamon, chocolate and nutmeg tones, an unusual array of colors for spring. I have planted them around golden barberries that leaf out just as the primroses are at their peak. The 'Striped

Victorians' are a pastel-hued mix of blues and lavenders with each flower showing unique dark blue veins radiating from the center of the blossom. I have planted several of these in pots so their intricate colors can be fully enjoyed.

Overlooked Cardamine

All of us are too familiar with shot weed, a common garden pest and occasional unwanted groundcover. The tiny white flowers produce copious quantities of seed that become instantaneous projectiles at the slightest touch. Often overlooked are the ornamental members of this clan. *Cardamine trifolia*, evergreen bittercress, is a very low perennial groundcover that will tolerate dry shade. It is topped with an airy froth of white flowers that seldom set seed. *Cardamine pratensis*, lady's smock, is a classic addition to a moist site. The flowers vary from white to pale lavender on willowy stems, and there are several selections available. The aristocrat of the family is *C. quinquefolia*, pink lady's smock. In March, the slight flower stems rise from the soil to carry clusters of eye-catching, lavender-pink blooms. *Cardamine quinquefolia* is slow to establish, but once it does, it will form a rich spring carpet. The plant is generally completely dormant by the end of May.

Keep in mind that many of these plants are small and can fit into a number of landscape situations. Their short season of intense color can add a new and intricate layer to your plantings. No matter the size of your garden, there is always some space for these springtime treasures, and in time, you will look forward to seeing these spring ephemerals, just as I do. ♪

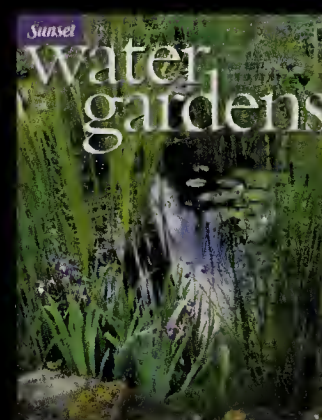
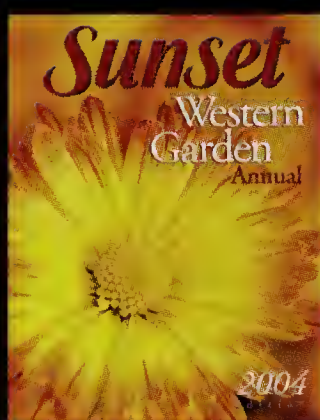
RICHE STEFFEN is Coordinator of Horticulture for the Elisabeth C. Miller Botanical Garden in Seattle.



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Aroideana

BY MICHAEL VAN WINKLE

They make our homes more livable—even transform sterile office building lobbies into indoor gardens. In fact, they have been shown to improve indoor health conditions. They are the ubiquitous “house plants” that have become so familiar. And many of them belong to the plant family known as aroids, Araceae. Among them are the heart-leaf philodendron, the dumb cane and the Chinese evergreen, familiar to many who grown plants indoors, but there are literally thousands of other species which are less widely known. For instance, have you ever seen a *Filarum* or a *Mangonia*? Possibly, but probably not. For these are uncommon (but easily grown) aroids, not usually found in interior gardens.

And they are just two of the 106 genera and more than 3,000 species (and still counting) that are members of the Araceae. Now, thanks to the efforts of the Elisabeth C. Miller library staff, especially Tracy Mehlin, you can learn much about this exciting plant family. The library has recently added the journal *Aroideana*, the official mouthpiece of the International Aroid Society, to its publications offerings. In fact, a complete set, from the first volume published in May 1978 through the current volume, has been secured. And the Miller library is the only library in the Pacific Northwest to house the journal, making it a local treasure.

Botanists, both amateur and professional, horticulturists, gardeners and students will find



This elegant arrangement, designed by Ben Hammontree, features a dramatically colored cultivar of *Colocasia esculenta* (taro).

Aroideana an extremely informative journal. While many of the articles are of systematic focus, all are well illustrated, making them useful to anyone interested in aroids. One can find articles as diverse as those on the use of aroids in African folklore and medicine, on the propagation of *Anthurium* cuttings, the germination of taro seeds, the ecology and life forms of aroids, and even on “Aroid Postage Stamps of the World.”

Volume 7 (Issues 3 and 4) is devoted to the culture and taxonomy of *Alocasia*; volume 9, to “The Araceae of Venezuela,” and volume 19, to the genus *Amorphophallus*, which includes the world’s tallest flowers. Many of the newly discovered aroids from Thailand and Vietnam are pictured here for the first time. Literature citations are extensive, leading the reader to other scholarly sources. And recent editions have turned to a color format, making them worth the pictures alone. Miller Library patrons are indeed fortunate to have *Aroideana* so readily accessible.

So do you want to find out what *Filarum* or *Mangonia* look like? Looking for some different, new aroids? Graduate students, are you looking for ideas for a thesis? Want to learn more about the International Aroid Society? You can find all of this information in *Aroideana*. ∞

MICHAEL VAN WINKLE is a retired environmental horticulture teacher and member of the International Aroid Society.

PHOTO BY LYNN HARRISON

Ilex verticillata

STORY AND DRAWING BY SUSAN B. SWANSON

Hollies (*Ilex* species and cultivars) have an infamous reputation for being invasive and unfriendly—an unwelcome combination in most gardens. There is more, however, to their prickly nature than meets the eye, for they also have hidden talent that unfolds during the bleakest of seasons.

From the time of the Celts through the Romans and into the early Christian era, common or English holly (*Ilex aquifolium*) was used as decorative material during the winter solstice. It was believed to have protective powers and was symbolic of the crown worn by Christ. Folklore also gave it healing powers; for centuries extracts from roots and bark were used to combat dizziness and hypertension.

Ilex verticillata

The Arboretum has an extensive grove of hollies, including the deciduous species, *Ilex verticillata*—commonly known as winterberry or black alder.

In Northwest landscapes, *Ilex verticillata* is both under-appreciated and under-used. Perhaps this is, in part, because it is native to the damp lowlands of the central and eastern United States and is not often seen in our area. Planted in the right conditions, however, *I. verticillata* does beautifully here. Although it can slowly mature to about 10- to 12-feet high and wide, in an urban setting it may only grow to about 8 feet. It needs full sun or partial shade and moist, acidic soil. Leaf chlorosis and an overall stunted growth habit often occur when *I. verticillata* is planted in alkaline soils.

In the summer, *Ilex verticillata* and its cultivars are flush with dark green, lance shaped leaves—varying from flat green to shiny on the upper surface, with the underside somewhat pubescent. Unlike evergreen hollies, the leaf margins are serrated, not spiny.

In fall, the leaves are shed with not much visual spectacle, turning yellowish green with purple tinges. In fact, fall is what I consider to be this holly's 'ugly duckling' phase. When winter sets in, so does its time of glory. What remain are fabulous clusters of fruit clinging along bare branches. Their brilliant reds and oranges, set against an otherwise cold and damp sky, warm our eyes.



Take Two Plants

There is a trick to having a bounty of these berries (technically drupes), and it requires some forethought in planting. Hollies are dioecious—they produce male and female flower parts on separate plants. Both produce small, white flowers in June, but only the female produces berries, and only if a male plant is near by. One male in close proximity may pollinate up to five females, but it is necessary to appropriately match male and female blossom times. (See sidebar for recommended pairings.) If they are mismatched by even one week, insufficient pollination and, therefore, no winter color will result. Looking at two unmarked plants, it can be difficult to tell whether you have a male and a female or a pair of males

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Ilex verticillata 'Red Sprite' (ABOVE), which grows slowly to 3 feet, and *I. verticillata* 'Cacapon' (BELOW), which becomes a 6-to-8-foot, compact shrub, are female cultivars that are successfully pollinated by *I. verticillata* 'Jim Dandy.' Both *I. verticillata* 'Red Sprite' and *I. verticillata* 'Cacapon' may be seen in the Arboretum at map grids 4-4E and 34-1E.



FAVORITE FAMILY MEMBERS continued from page 19

textured, compound foliage is comprised of five to eight narrow, bamboo-like leaflets to 6 inches in length, yet only a half-inch wide. Drooping clusters of tubular, lavender, fragrant flowers are offered in March and April and might result in fruit if more than one clone is grown.

Holboellia coriacea

Though *Holboellia fargesii* is a relative newcomer in cultivation, *H. coriacea*, endemic to China, has been grown, at least in the Pacific Northwest, for many years. I first observed this species, with broad, trifoliate foliage and clusters of creamy white flowers in early spring, growing in the Carl English Gardens at Seattle's Hiram Chittenden Locks, and later in the garden of Mareen Kruckeberg, who helped popularize its cultivation. The monoecious flowers of this species are variable regarding their degree of fragrance. I currently have in my collection a powerfully scented selection known as *H. coriacea* 'Cathedral,' which was propagated from the walls of Winchester Cathedral in the United Kingdom.

Holboellia angustifolia

In 2000, I was able to collect a root piece of *Holboellia angustifolia*, found at rather low elevations of the Mewa Khola drainage in eastern Nepal, from a trailside specimen, the fruit long before consumed by the wayfaring citizens of the countryside. It is a lovely species that I have also observed in Yunnan Province on the Cang Shan above Dali, growing at higher elevations than Nepalese plants, though again without fruit. Heronswood Propagator Eric Hammond was successful, however, in finding fruit of this elegant species in 1997 in Sichuan Province, and it was from that collection that we were able to introduce it into general cultivation, albeit under an incorrect name (*H. fargesii*, narrow leaf form). The evergreen leaves of this species are known to

be four to 14 times longer than its width. From those we offer, these parameters translate to leaves comprised of five to seven very narrow leaflets to 3 inches in length, while no wider than a quarter of an inch. The flowers of light lavender proffered in late winter are, let's say, insignificant, although the plant is well worth growing for foliage effects alone.

North Korea & Vietnam

I am currently writing while incarcerated by fleshy fog at the Royal Hotel of Sa Pa in North Vietnam. In the event the name of my lodgings provides any false sense of luxury, the electricity is shut off promptly at 7 p.m. every evening, and the slaughter of a diversified lot of living things commences precisely at 4:30 a.m. directly below my window. I am here, once again, to botanize the slopes of Fan Xi Phan, which, at 10,400 feet, is the tallest peak in this country.

It was on this mountain in 1999 that we were able to collect *Holboellia chapaensis*, an evergreen species with elegant three-leafleted foliage with conspicuously impressed veins. Despite the relatively low elevation of its provenance, it has proven to be hardy in my zone 8 garden. The tubular, creamy white, monoecious flowers result in crops of enormous purple fruit to 7 inches in length.

During our adventures in North Vietnam this year, we were able to re-collect fruit of this *Holboellia* as well as other commonly occurring species. Because of the sweetness of the pulp, completely ripened fruit of this genus, and others in the Lardizabalaceae, are readily consumed by wildlife and the general citizenry. It is presumably due to the severe depletion of bird and animal life throughout North Vietnam that we were able to find fruit still intact on the vines; in China, I have collected its seed from rinds discarded along the road by snacking wayfarers.



A vigorous, evergreen vine growing to 30 feet, *Stauntonia hexaphylla* produces fragrant, violet-tinged, white flowers in late winter.

Stauntonia

In 1792, the first embassy to China was taken to the court of Chinese Emperor Qianlong by ambassador Lord Macartney in an effort to increase trading ties with Britain. He was accompanied by minister plenipotentiary Sir George Leonard Staunton, whose diaries would later become popular and well-read throughout Europe and Asia. It was for Staunton that the genus *Stauntonia* is named.

It was, however, once again, in the garden of Elisabeth C. Miller that I first became familiar with this genus through the Japanese and Korean species, *Stauntonia hexaphylla*, the only one of the 25 species not endemic within the political borders of China. I have seen it growing in both countries, most notably tangled amongst *Rhododendron schlippenbachii* and *Acer tschonskii* on the rich and diverse slopes of Korea's Taehukson Island in the autumn of 1993.

Like *Akebia*, the foliage is palmately compound but to a much larger scale, with five to seven leathery leaflets per leaf, each to 6 inches in length and 2 inches wide. In early spring, clusters of showy, creamy white, pink-blushed flowers appear which add a substantive fragrance to the cool air of the season. It is a vigorous grower and will indeed compete with

sizable trees over time if provided a fertile environment; an old growth western red cedar was completely swamped by this species at the University of British Columbia Botanical Garden, ultimately taken to prostrate status.

We grow *Stauntonia hexaphylla* above our hot tub where we can enjoy the fragrance in late winter as well as the year 'round privacy provided by the romping ropes of tidy leaves. Where I observed this species in its native haunts, flowers resulted in plum-sized fruit, lavender in color, which split open upon ripening to reveal a translucent, fleshy mass of seed inside. The single clone at the Elisabeth C. Miller Botanical Garden performs this feat as well, a characteristic that illustrates the genus's propensity towards being polygamomonoecious, or having both male, female and perfect flowers on the same plant. In a pinch, without an appropriate suitor, it is able to produce viable seed.

It is quite remarkable to be part and parcel to such a vibrant and infectious enthusiastic community of Northwest gardeners. The depth and sophistication of the inventories of our gardens is staggering in comparison to much of North America. Yet it is curious that our adventurous spirits have somehow come to ignore vines with evergreen foliage. Vines of any disposition are quite remarkable plants, and I am of the religion that they should be applied generously to any garden. The many species of vines held within the ranks of the Lardizabalaceae, including those not yet widely available, are vastly worthy of cultivation in Pacific Northwest landscapes. ~

DAN HINKLEY is Director of Collections of Heronswood Nursery in Kingston, Washington, which he founded in 1987 with partner Robert Jones. Dan is currently working on Part II of 'The Explorer's Garden: Shrubs and Vines' to be published by Timber Press. He is a passionate supporter of Washington Park Arboretum.



PHOTO BY LYNNE HARRISON

The flowers of *Arisaema candidissimum* are about 16 inches tall and sweetly scented. The pink-striped, white spathe stops admirers in their tracks. *Arisaema candidissimum* is hardy in zones 6-9 in moist, well-drained, humus-rich, acid soil and partial shade.

Embracing the Lewd!

BY BRIAN THOMPSON

Those hooked by Michael Van Winkle's review of the journal *Aroideana* will find his enthusiasm matched by that of Deni Bown in her book "Aroids: Plants of the Arum Family." Now in an expanded and updated second edition (2000), this is a most delightful travel guide through a wonderful and weird world that includes a surprising number of friends, but also some enticing strangers.

This is not the encyclopedic, A-Z treatment you might expect. Instead, Bown groups her subjects by habitat, then expands this approach by considering special categories including edible aroids, such as taro (*Colocasia esculenta*), and those that are notoriously toxic, like the familiar house plant dumb cane (*Dieffenbachia* species). While this makes it a bit more challenging to look something up,

the reader is more than compensated by a rare plant book that's meant to be absorbed from cover to cover.

And such charming writing. Or, when appropriate, disgusting writing! In describing the evil-smelling and hairy flower of the dead horse arum, *Helicodiceros muscivorus*, she laments, "If such an inflorescence were small, scarcely opening, and discreetly concealed by the foliage, it would not be so bad, but the fact is, it is large...and gapes widely." This further offends, she adds, by being positioned such "that observers are confronted with a full frontal view that probably is among the most shocking sights in the plant kingdom."

Aroids seem to embrace the rude and the lewd. In her discussion of the popular calla lily (*Zantedeschia aethiopica*), known as arum lily in Bown's native England, the author

reflects, “the simple, sensuous shape and sin-soft texture of arum lilies, not to mention their complex associations of eroticism and purity, have appealed to many different artists.” She then recounts the different treatments from artists as widely divergent as Ansel Adams and Robert Mapplethorpe, or Henri Matisse and Georgia O’Keeffe.

All this might add up to a lot of fluff if there were no content behind it. Fortunately, as I am an aroid near-novice, Michael Van Winkle has given his assurance that on all the technical points, this is top-notch material, including the color plates, that are both beautiful and effective at showing distinguishing characteristics, and supplemental, helpful line drawings.

An extensive list of references, a detailed glossary—aroids have many specialized parts and a genera checklist of key distinctions further the needs of both the scholar and the novice in untangling the still unsettled nomenclature of Araceae. A no-nonsense guide to cultivation forms a lengthy appendix, and should give considerable momentum to the convert with either an indoor or outdoor site. All in all, a very satisfying book, no matter what level of knowledge or interest in aroids you start from!

Just *Arisaema*

“The Genus *Arisaema*: A Monograph for Botanists and Nature Lovers” is a closer examination of one of the most popular genera among aroids, and one that offers some of the greatest selections for temperate gardeners. Authors Guy and Liliane Gusman provide the first monograph since 1910 on this complex genus that has gone through considerable change and revision.

This they accomplished by providing a high level of descriptive detail, extensive keys and lengthy discussion of nomenclature variables. Numerous photographs of live plants and herbarium specimens, accompanied by



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colored line drawings, back up this high scholarship, providing much to interest the less academic fancier of so-called cobra lilies.

While the Gusmans' style might not be as much "fun" as the writing found in the Bown book, it is evident the authors share her passionate love of the subject. Based in Belgium, they have traveled the world in search of their favorites and have tried many species in their home garden. Throughout are cultivation hints, often mixed with observations of natural habitats.

Arisaema candidissimum is "said to grow in conditions where the melting of the snow supplies water underneath to the soil." However, in experience, it "does not seem fussy about the soil and is one of the easiest to grow." The highly variable *A. serratum* from Japan in its typical form is found "often in company with trilliums and violas, in *Cryptomeria* forests, where it enjoys the thick well-drained humus cover built by falling needles."

Both these books address the near void of literature on aroids; however, there are a few additional sources described on the International Aroid Society's Web site at www.aroid.org/literature/index.htm. But watch out! All these authors make it clear that a love of aroids is highly infectious and a life-long pursuit. ~

BRIAN THOMPSON is a librarian at the Elisabeth C. Miller Horticultural Library.

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Gusman, Guy and Liliane Gusman. *The Genus Arisaema: A Monograph for Botanists and Nature Lovers*. Ruggell, Lichtenstein: A. R. G. Gantner Verlag KG (distributed by Timber Press), 2002. ISBN: 3-904144-91-X, \$69.95.

Ilex verticillata continued from page 26

or a pair of females. One way to try to distinguish them is that male flowers form in clusters, while female flowers are solitary or occur in twos or threes. Where these flowers cling to the branches, they will be followed in winter with fruit.

There is one risk for the gardener who looks forward to a visual delight of color in the winter. Birds that appreciate holly drupes for their nutrients, not necessarily for their ornamental value, often shorten the life of the berries.

Deciduous hollies are very effective in the landscape, used as an informal grouping or as a hedge. They are also effective when used in containers or when combined with conifers, evergreen perennials and winter-hardy annuals, such as violas. Such use can give new life to a common holiday decoration. ~

SUSAN SWANSON is a freelance writer and illustrator for several regional gardening publications. She can be reached at 206-841-8212 or susanbernadine@yahoo.com.

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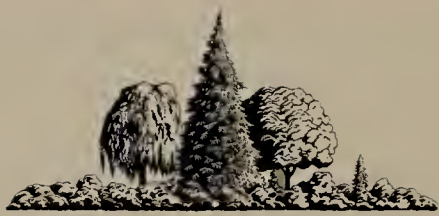
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